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Architects SPECIFICATIONS

for



ROOFS

THE PHILIP CAREY CO.
221 & WESTMORLAND STS.
PHILADELPHIA, PA.

A. I. A. File No. 12 B 1

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Architects SPECIFICATIONS *for* ROOFS

THE PHILIP CAREY CO.
22ND & WESTMORELAND STS.
PHILADELPHIA, PA.

THE PHILIP CAREY COMPANY
LOCKLAND, CINCINNATI, OHIO

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LOCKLAND, CINCINNATI

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Carey **BUILT-UP**

Roof Specifications

Carey Built-up Roofs need no special introduction. For years they have been accepted as the highest standard of quality and used on the most important and noteworthy buildings erected in the United States.

Carey Built-up Roofs are laid or built up on the building, layer by layer. Specifications are prepared to suit the type of roof construction or surface to be covered, viz: Concrete, Tile, Gypsum Block or Wood Sheathing. The materials employed consist of single sheets of Carey Fiberock (Asphalt Impregnated Asbestos Felt) and Feltex (Asphalt Saturated Rag Felt) as may be best adapted to meet the requirements for each particular style of construction. The best materials and experienced workmanship are employed in the production of Carey Felts, which insures uniformity, strength and enduring flexibility, so essential to the permanent service of the roof.

In the application of Carey Built-up Roofs, asphalt is used exclusively instead of Coal Tar Pitch, a point which is of vital interest to the user of roofing. Carey Manco Asphalt is tempered in the process of manufacture to a melting point of 225 degs. F., which fully protects it against the hottest sun and the severest cold. In general practice it has been found that asphalt is far superior to Coal Tar Pitch for roofing purposes, because of its remarkable resistance to changes in temperature, its cohesive and superior binding properties, its wonderful enduring flexibility and waterproofing qualities. Asphalt is given preference over any other bituminous material for wear, weather and waterproofing many important and particular products in daily use, and for no other reason than the properties above mentioned are inherent in asphalt to a greater degree than any other bituminous material.

Carey Built-up Roofs are substantial and economical. Repairs are unnecessary, as these roofs are applied under the supervision of expert workmen, and fully guaranteed. Through our experience, covering a period of fifty years in the manufacture of roofing materials and their application to buildings, we have accumulated valuable information along the line of roof construction, and this, coupled with the best methods used in common practice, enables us to employ in Carey Built-up Roofs every important feature which has to do with quality, durability and satisfactory service.

Carey Branches and Distributors are located at all convenient points throughout the United States and Canada. Our facilities for handling contract roofing work are complete. The men who apply Carey Roofs are thoroughly trained in all branches of the work.

If you contemplate erecting a new building, or re-roofing an old building, we can submit to you an interesting proposition to furnish and apply under the supervision of competent roofers, a Carey Built-up Roof that will meet every requirement. This insures you the best service, and eliminates any future annoyance on your part with roofing trouble.

Carey Built-up Roofs are labeled and approved by Underwriters' Laboratories.

THE PHILIP CAREY COMPANY

CINCINNATI, U. S. A.

CAREY BUILT-UP ROOFS

Carey Roof Specification No. 2

(BUILT-UP ROOF OVER WOOD)

Work Proposed.—This specification contemplates furnishing all materials and labor required to apply the roofing and base flashing, and line the gutters. (No metal work of any kind is included.) Sheathing must be dry before applying the roofing.

Materials.—The materials used in the construction of this roof shall be as follows:

- (a) Carey Flexible Cement Roofing, Style B, 90 lbs. per square
- (b) Carey Manco Asphalt, 30 lbs. per square
- (c) Carey Fiberock or Feltex Felt, 15 lbs. per square
- (d) Carey Manco Asphalt, 25 lbs. per square
- (e) 1 inch large head roofing nails, 1½ lbs. per square

Weight per square, when applied, to be approximately 161½ lbs.

ABBREVIATED SPECIFICATION

Roofing—To be Carey Flexible Cement Roofing, Built-up Specification No. 2, applied in accordance with manufacturer's complete Specification for wood sheathing surface.

Application—The roof surface shall be covered with Carey Flexible Cement Roofing, lapping the sheets two inches at the joins and four inches at the cross seams. (The patent lap is not to be used but covered entirely by the succeeding sheet.)

Roofing sheets shall be nailed at the joins and cross seams with large head roofing nails, to be driven not more than two inches apart. Nails must be driven straight and care used to avoid driving nails in cracks or knot holes.

Carey Roofing sheets shall be laid crosswise of the sheathing boards.

The Carey Roofing surface shall then be mopped with Carey Manco Asphalt, into which, while hot, embed one layer Carey Fiberock Felt, lapping the sheets about two inches and laying the Fiberock sheets crosswise of the Carey Roofing sheets, or with the Carey Roofing Sheets, as best suits the type of roof construction.

Gutters and Valleys—Apply one sheet of Carey Flexible Cement roofing, cut to a width of not over 18 inches, mopping this sheet solid, then apply over the sheet of Carey Roofing, one sheet of Carey Fiberock Felt, thoroughly mopping same to the top surface of the Carey Roofing. Lay all sheets lengthwise with the gutters or valleys so that joins will not occur in the center. All valley sheets are to be applied as specified under "Application."

Note—All concrete or brick walls to be flashed, should be primed to full height of flashing.

Flashing—General Contractor or Owner to provide suitable wood nailing strips in the walls at time of construction—usual size two by four inches, also provide wood cant strips for bridging angle at walls.

Allow Carey Roofing sheets from main deck to lap onto cant strip. Cut cap strip of Carey Roofing sufficient width and cement same in solid, nailing the upper edge to wood strip in the wall. The sheet of Fiberock Felt from main roof to run to wall only, in case cant strip is not used in angle of wall.

Counterflashing See under "Notice to Owner or Contractor."

Roof Finish—The entire surface of Fiberock Felt shall be mopped with Carey Manco Asphalt, applied in a light thin coat, less than one-sixteenth inch thick, and spread to a uniform finish.

NOTICE TO OWNER OR CONTRACTOR

Roof surface is to be prepared and made ready for us for the application of Carey Roofing with dry seasoned sheathing boards of uniform thickness, closely laid. All sheathing boards to be surface nailed with at least two nails to each rafter in addition to any blind nailing.

General Contractor is to remove or hammer down all projecting nail heads, cover all knot holes and fill in all open places between sheathing boards before the roofing contractor commences the application of the roofing.

Ends of all sheathing boards must terminate on solid rafter or purlin and be securely nailed thereto.

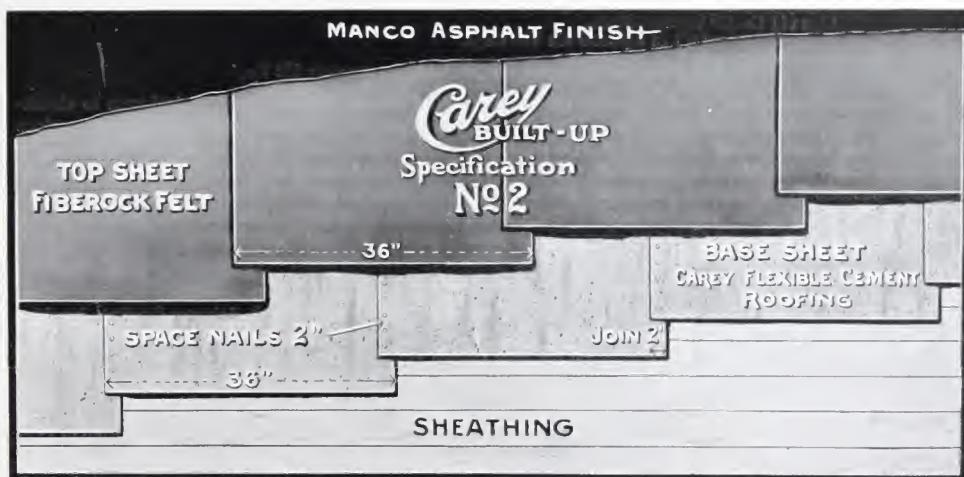
The roof surface shall be swept clean of all chips, nails, loose rubbish, etc.

General Contractor to install cant strips and wood nailing strips in walls for flashings.

Counterflash all walls with No. 24 or No. 26 gauge galvanized iron, or if preferred, copper may be used. Counterflashing to be firmly attached in wall with suitable plugs and Portland cement. If furnished by the roofing contractor, both materials and labor of installation shall be charged to the acceptor of this proposal as an extra, unless otherwise specifically stated in proposal.

Application of Carey Roof Specification No. 2

(BUILT-UP ROOF OVER WOOD SURFACE)



Particular attention is called to the combination of materials used in Carey Built-up Specification No. 2 Roof. The unique construction provides for all ordinary contraction or expansion, and the flexible asphalt cement composition is so thoroughly tempered in the process of manufacture that it cannot dry out, lose its form, or be affected in any manner by either extremes of heat or cold. Great tensile strength is afforded by the strong Calcutta Burlap, which is saturated and coated with asphalt to prevent deterioration.

Carey No. 2 Specification is designed for all types of building, particularly flat surfaces. All joints in this roof are broken by the built-up process, thereby eliminating any possibility of leakage. Manco Asphalt is used entirely in the construction of this roof. No combination of roof materials can be used that will make a more durable and satisfactory roof than the Carey No. 2 Specification.

CAREY BUILT-UP ROOFS

Carey Asbestos Roof Specification No. 3

(ASBESTOS BUILT-UP ROOF OVER WOOD)

Work Proposed—This specification contemplates furnishing all materials and labor required to apply the roofing and base flashing and line the gutters. (No metal work of any kind is included.)

Sheathing must be dry before applying the roofing.

Materials—The materials used in the construction of this roof shall be as follows:

One roll (108 sq. ft.) Two-Ply (2) Fiberock Roofing, weight forty (40) lbs.
Thirty (30) lbs. Carey Fiberock Asphalt Impregnated Asbestos Felt.
Eighty (80) lbs. Carey Manco Asphalt.
One (1) lb. $\frac{3}{8}$ " Roofing Nails.
Three-Quarters ($\frac{3}{4}$) of a pound flat Tin Caps.

Weight per square, when applied, to be approximately 152 lbs.

Application—The roof surface shall be covered with Two-Ply Fiberock Asbestos Roofing, laid next to sheathing boards. All joints to be lapped not less than two inches, cap-nailing sheets at joints securely every three inches, with one additional row of nails and caps six inches apart thru the center of the sheet. This surface to be mopped with Carey Manco Asphalt, into which, while hot, shall be laid two layers of One-Ply Fiberock (Asphalt Impregnated Asbestos Felt), cementing solid between sheets so that at no place shall felt touch felt; each sheet to overlap the previous sheet so that seventeen inches are left exposed. All sheets shall be laid crosswise of the sheathing boards and so lapped that at no place will one joint or cross seam occur upon another.

Valleys and Gutters—Line all gutters in the same manner as described under "Application," using sheets full length and cut to a width of not over 18 inches. After the Two-Ply Fiberock Asbestos Roofing has been nailed in position, then cement two sheets of One-Ply Fiberock over the Two-Ply Fiberock Asbestos Roofing, breaking joints in the usual manner.

All valley and gutter sheets shall extend on the roof surface sufficiently to be properly lapped with the main roofing sheets, all to be applied as specified under "Application."

Note—All concrete or brick walls to be flashed, should be primed to full height of flashing.

Flashing—The General Contractor or Owner to provide suitable wood nailing strips in the walls at time of construction—usual size about 2 x 4 inches, also provide cant strips for bridging angle along walls.

The Two-Ply Fiberock base sheet shall extend from main deck to lap the full height of cant strip.

A strip of Two-Ply Fiberock shall be nailed to top edge of nailing strip in wall and this asbestos strip to be thoroughly cemented over cant strip and lapped onto main roof deck at least four inches. The final Two-Plies of Fiberock from main roof are then run to top edge of flashing, each being cemented in solid over cap sheet.

Note—Height of flashing, width of cant strip and flashing materials may be regulated to suit height of wall and other conditions prevailing.

Counterflashing—See "Notice to Owner or Contractor."

Roof Finish—The entire surface of the roofing applied shall be mopped with Carey Manco Asphalt, applied hot, and spread to a uniform finish.

NOTICE TO OWNER OR CONTRACTOR

Roof surface is to be prepared and made ready for us for the application of roofing, with dry seasoned sheathing boards of uniform thickness, closely laid. On permanent buildings, tongue and grooved sheathing six to eight inches wide is recommended. All sheathing boards must be surface nailed with at least two nails to each purlin or rafter, in addition to any blind nailing.

General Contractor is to remove or hammer down all projecting nail heads, cover all knot holes, and fill in all open places between sheathing boards before the roofing contractor commences the application of the roofing. Ends of all sheathing boards must terminate on solid rafter or purlin, and be securely nailed thereto.

The roof surface shall be swept clean of all chips, nails, loose rubbish, etc.

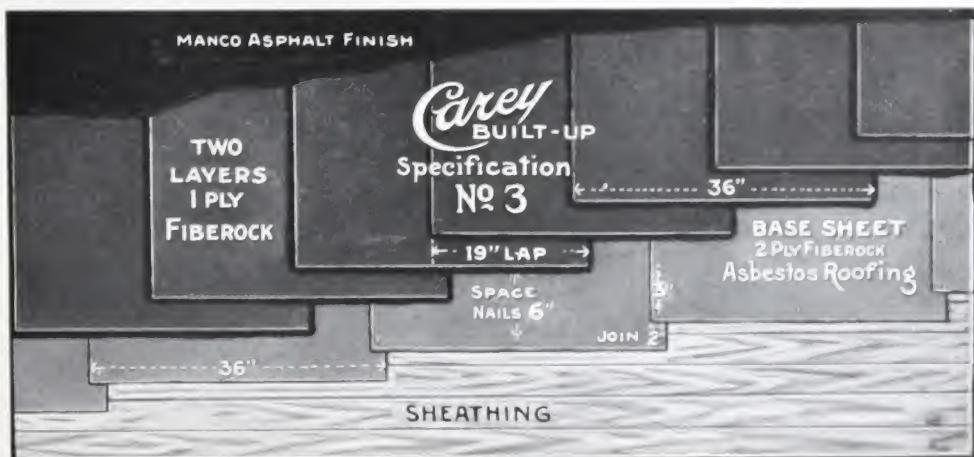
General Contractor to install cant strips and wood nailing strips in walls for flashing. Counterflash all walls with No. 26 Gauge galvanized iron, or if preferred, copper may be used. This counterflashing to be firmly attached in wall with suitable plugs and Portland cement. Also see detail for Carey Fiberock Asbestos counterflash. If furnished by the roofing contractor, both material and labor of installation shall be charged to the acceptor of this proposal as an extra, unless otherwise specifically stated in proposal.

ABBREVIATED SPECIFICATION

Roofing—To be Carey Asbestos Roof Specification No. 3, Built-up, applied in accordance with manufacturer's complete specification for wood sheathing surface.

Application of Carey Asbestos Asphalt Roof Specification No. 3

(ASBESTOS BUILT-UP ROOF OVER WOOD)



In the Carey No. 3 Specification will be found every advantage that experience has proved of value to a roof covering designed for wood sheathing surfaces. The base sheet is a two-ply asbestos roofing. The entire base sheet is covered in the built-up process by three distinct layers of asphalt and two layers of Fiberock Felt (Asphalt Impregnated Asbestos Felt).

This roof is specified for the most permanent construction, including all types of buildings, flat or steep surfaces, particularly the saw tooth type of construction, where it has been proved in common practice that the ordinary roof covering fails to meet the necessary requirements.

The smooth asphalt finished surface of this roof is constantly washed by rains, always presenting a clean and uniform appearance.

CAREY BUILT-UP ROOFS

Carey Asbestos Roof Specification No. 4

(ASBESTOS BUILT-UP ROOF OVER CONCRETE)

Work Proposed—This specification contemplates furnishing all material and labor required to apply the roofing and base flashings and line the gutters.

No metal work of any kind is included.

Materials—The materials used in the construction of this roof shall be as follows:

Per square: One gallon Carey Asphalt Primer.

Forty-five (45) pounds Carey Fiberock (Asphalt Impregnated Asbestos Felt.)

One Hundred and Twenty (120) pounds Carey Manco Asphalt.

Weight per square, when applied, to be approximately 173 lbs.

Application—The concrete shall be coated with Carey Asphalt Primer, applied cold, and thoroughly brushed in. The surface shall be mopped with Carey Manco Asphalt, into which, while hot, embed three layers of Carey Fiberock (Asphalt Impregnated Asbestos Felt), cementing solid between the sheets so that at no place shall felt touch felt; each sheet to overlap the previous sheet so that 11 inches are left exposed, making a continuous 3-ply.

Valleys and Gutters—Apply three layers of Carey Fiberock Felt lengthwise with the valley or gutter. Each sheet to overlap the previous sheet so that one-third of its length is left exposed. (Use sheets of uniform length.)

All gutter sheets shall extend on the roof surface sufficiently to be properly lapped with the main roofing sheets and are to be applied as specified under "Application."

Note—All concrete or brick walls to be flashed should be primed to full height of flashing with Carey Asphalt Primer.

Flashing—Cement strip of Fiberock six inches wide in angle of wall, three inches to wall and three inches to flat deck. The Fiberock sheets from main roof to be cut so they will extend up on all fire walls, skylights and other vertical surfaces to a height of six inches; this extension to be cemented to vertical surface. A cap sheet of Fiberock cut twelve inches wide to be cemented in six inches to wall and six inches to flat deck.

General Contractor to leave opening in the walls for inserting counterflash.

Counterflashing—See under "Notice to Owner or Contractor."

Roof Finish—The entire surface of the roofing applied shall be mopped with Carey Manco Asphalt, applied hot, evenly spread to a uniform finish.

ABBREVIATED SPECIFICATION

Roofing—To be Carey Asbestos Roof Specification No. 4 (built-up), applied in accordance with manufacturer's complete Specifications for concrete surface.

NOTICE TO OWNER OR CONTRACTOR

A.0 concrete surface shall be prepared by us for the application of roofing, with a comparatively smooth, hard finish, free from holes and linear cavities of mud and crimson, and the expense of rectifying any extensive irregularities, such as depressions in the plane of the roof surface, which must be filled, shall be chargeable to the acceptor of this proposal.

A.0 sharp angles to be rounded out so as to avoid rough or sharp edges. On steep surfaces provision should be made for anchoring the roofing sheets, the anchor being to consist of a wooden strip embedded into the concrete surface at the ridge.

A.0 down-sloping surfaces must be lower than the roof surface, and the gutters properly graded by the owner or contractor, so that water will not stand at any point.

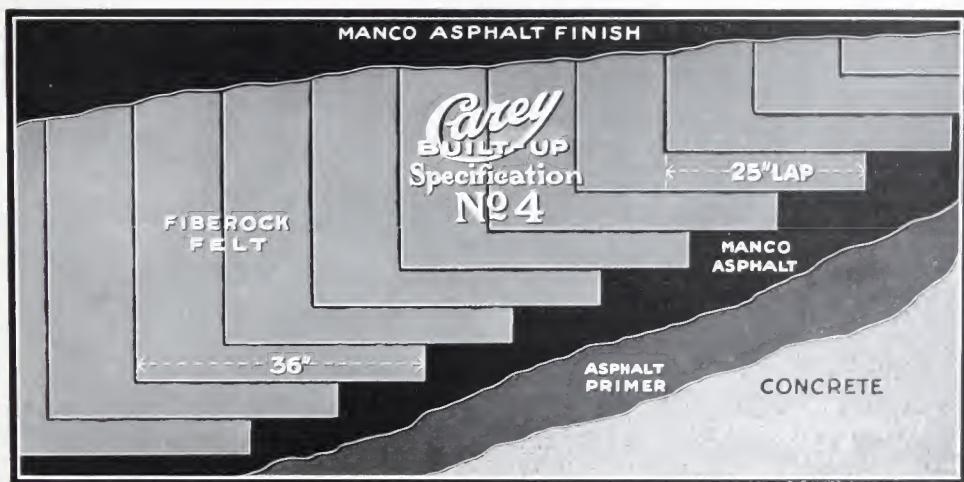
Counterflash all walls with No. 20 gauge galvanized iron, or if preferred, copper may be used. Counterflashing on the trench attached to wall with suitable pitch and Fostilex cement. Also see detail for Carey Fiberock counterflash. If furnished by roofing contractor, both materials and labor of counterflash shall be charged to acceptor of this proposal as an extra, unless otherwise specifically stated in proposal.

General Contractor to provide an opening in walls for inserting of counterflashing, approximately 10 inches deep and 6 inch wide.

The concrete surface must be thoroughly dry and sweep clean before the roofing is applied.

Application of Carey Asbestos Built-up Roof Specification No. 4

(OVER CONCRETE)



This roof is a built-up construction, consisting of Fiberock (Asphalt Impregnated Asbestos Felt) furnished in sheets 36 inches wide, applying the sheets 3-ply, each sheet being lapped two-thirds of its width on the preceding sheet, breaking joints, and completing a continuous 3-ply roof over the entire surface.

The concrete base is first primed with Carey Asphalt Primer and sheets of Fiberock are then laid in hot Manco Asphalt. The entire upper surface is mopped with hot Manco Asphalt, in accordance with the specifications.

The Manco Asphalt, which is used exclusively in the construction of this roof, is prepared with a high melting point, which prevents it being affected by any temperature of the sun's heat or varying weather conditions. The combination of Manco Asphalt and Fiberock forms a wearing surface to this roof that is practically indestructible.

Fiberock is made entirely of pure Asbestos, thoroughly impregnated with high grade Asphalt, this produces a very pliable sheet that can be readily formed and bonded to any irregular portions of the roof surface, and in time, becoming practically a part of the roof foundation itself.

The smooth finished surface of the roof presents a neat and uniform appearance, and washed by the rains is kept free from accumulations of dust and dirt.

Carey Feltex Built-up Roof Specification No. 5

(OVER WOOD)

Work Proposed—This specification contemplates furnishing all materials and labor required to properly apply the roofing and base flashing, and line the gutters. (No metal work of any kind is included.)

Sheathing must be dry before applying the roofing.

ABBREVIATED SPECIFICATION

Roofing To be Carey Feltex Built-up Roof Specification No. 5, applied in accordance with manufacturer's complete specifications for wood sheathing surface.

Materials—The materials used in the construction of this roof shall be as follows:

(a) Carey Feltex (weight 30 lbs. per sq.)	30 lbs. per square
(b) Carey Manco Asphalt,	25 lbs. per square
(c) Carey Feltex (weight 15 lbs. per sq.)	15 lbs. per square
(d) Carey Manco Asphalt,	25 lbs. per square
(e) Nails $\frac{1}{8}$ or 1 inch, large head,	1 lb. per square
Weight per square, when applied, to be approximately 96 lbs.	

Application—The roof surface shall be covered with one layer of Carey Feltex, 36 inches wide, weighing about 30 lbs. per square. Lap the sheets not less than two inches, then nailing the sheets at the joints with large head $\frac{1}{8}$ or one inch nails on six inch centers, with one additional row of large head nails spaced 11 inches apart, lengthwise through the center of the sheet. After the 30 lb. Feltex sheet has been completed in accordance with above instructions, proceed to cover the same with one layer of Carey Feltex, 36 inches wide and weighing about 15 lbs. per square. The 15 lb. sheet to be cemented with Manco Asphalt securely to the 30 lb. sheet, lapping the top sheets not less than two inches between the joints of the lower sheet—no nails to be used through the top sheet.

Base sheets shall be laid crosswise of the sheathing boards. The top sheets may be laid crosswise or with the bottom sheets as best suits the type of roof construction.

Valleys and Gutters—Line all valleys or gutters in the same manner as described under "Application."

In certain types of construction it is desirable that all gutters and valleys should be reinforced with an extra sheet of felt, weighing not less than 15 lbs. to the square, well mopped in with Manco Asphalt. (If this extra reinforcement is required, it is to be charged for as an extra on a time and material basis.)

Note—All concrete or brick walls to be flashed should be primed to full height of flashing.

Flashing—The General Contractor or Owner to provide suitable sealing strips in the walls at time of construction—usual size about 2 x 4 inches, also provide cant strips for bridging angle of wall and roof deck.

Note—Height of flashing, width of cant strip and flashing materials may be regulated to suit height of wall and other conditions prevailing.

Counterflashing—See "Notice to Owner or Contractor."

Roof Finish—The entire surface of the roof applied shall be mopped with Manco Asphalt, applied hot, and spread to a uniform finish.

NOTICE TO OWNER OR CONTRACTOR

Roof surface is to be prepared and made ready for its the application of roofing with dry uncoated sheathing boards of uniform thickness, closely laid. All sheathing boards must be surface mopped with at least two coats of rank pitch or tallow in addition to blind mopping.

General Contractor is to remove or hammer down all protruding nail heads, unless all knot holes and fill in all spaces between sheathing boards before the roofing contractor commences the application of the roofing.

Ends of all sheathing boards must be mopped to avoid water or pitch and for smooth sailing thereof.

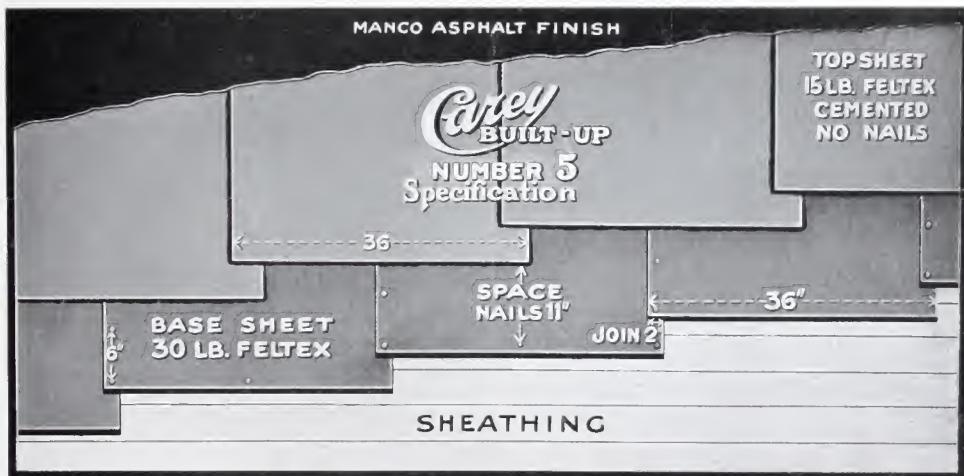
The roof surface shall be swept clear of all chips, scale, loose pitch, etc.

General Contractor is to install vapor strips and sound paving surface to wall for backing. Counter-flashing on walls with No. 24 or No. 30 gauge galvanized iron, or if preferred, copper wire by itself. Counter-flashing to be firmly anchored in the wall with suitable plugs and Portland cement.

If counter-flashing is used by the roofing contractor, basic material and labor of installation shall be charged to the account of the general or roofer, unless otherwise specifically agreed to this proposal.

Application of Carey Feltex Built-up Roof Specification No. 5

(OVER WOOD)



This roof is constructed of Carey Feltex (Asphalt Saturated Felt), furnished in sheets 36 inches wide. The base sheet is extra heavy, weighing 30 lbs. per square (100 square ft.) The top sheet will weigh 15 lbs. per 100 square feet.

The base sheets are laid crosswise of the sheathing boards, lapped and securely nailed into position with large head roofing nails. The top sheets are then mopped solid to the base sheets, breaking the joints, with those of the base sheet, lapping and cementing the sheets. No nails are used through the top sheets and no lap or joint occurs upon another.

This roof is adapted to wood sheathed buildings, with flat or moderately steeped roofs, and can be constructed at a slightly lower cost than any of the other built specifications. Carey high-grade Feltex (Asphalt Saturated Felt) and Manco Asphalt are used entirely in this specification.

This roof presents an even and neat appearance, always clean, and offers a very substantial wearing surface.

CAREY BUILT-UP ROOFS

Carey Built-up Asbestos Roof Specification No. 6

(OVER WOOD)

Work Proposed.—This specification contemplates furnishing all materials and labor required to properly apply roofing and base flashing. (No metal work of any kind is included.)

Sheathing must be dry before applying the roofing.

Materials.—The materials used in the construction of this roof shall be as follows:

(a) Carey Asbestos Felt (weight 35 pounds per square): 108 square feet	35 lbs. per square.
(b) Carey Manco Asphalt	25 lbs. per square.
(c) Carey Asbestos Felt (weight 35 pounds per square)	35 lbs. per square.
(d) Carey Manco Asphalt	25 lbs. per square.
(e) Nails $\frac{1}{4}$ " or 1"	$\frac{1}{4}$ lbs. per square
(f) Tie Caps / Flats	$\frac{1}{2}$ lb. per square

Weight per square, when applied, to be approximately 121 $\frac{1}{2}$ lbs.

Application.—The roof surface shall be covered with two sheets of Carey Impregnated Asbestos Felt (sheets 36 inches wide), laying the sheets 19 inches, leaving exposed 17 inches, the lower half sheet laid to the wood surface to be securely nailed to the sheathing. (See illustration.)

The sheets may be laid crosswise or with the roof boards as best suits the type of roof construction.

Valleys and Gutters.—Line all gutters and valleys in the same manner as described under "Application."¹¹

Flashing.—The General Contractor or Owner to provide suitable nailing strips in walls at the time of construction, also provide cast strips for bridging angle of wall and roof deck.

Height of flashing, width of eaves strip and flashing materials may be required to suit height of wall and other conditions prevailing.

Counterflashing.—See "Notice to Owner or Contractor."

Roof Finish.—The outer surface of the roof supplied shall be finished with Manco Asphalt, applied hot, and spored to a uniform finish.

ABBREVIATED SPECIFICATION

Roofing.—To be Carey Built-up Asbestos Roofing Specification No. 6, applied in accordance with manufacturer's complete specifications for wood surface.

NOTICE TO OWNER OR CONTRACTOR

Roof surface to be prepared and ready-ready for on for the application of roofing with dry unmented sheathing boards of medium thickness (about) 1/2". All sheathing boards must be surface nailed with at least two nails to each joist or rafter in addition to blind nailing.

General Contractor to remove all loose shingles, nail heads, cover all loose shales and tile in all cases where loose sheathing boards lattice the roofing contractor commences the application of the roofing.

Ends of all sheathing boards must terminate in a nail ridge or parapet and be securely nailed flatwise.

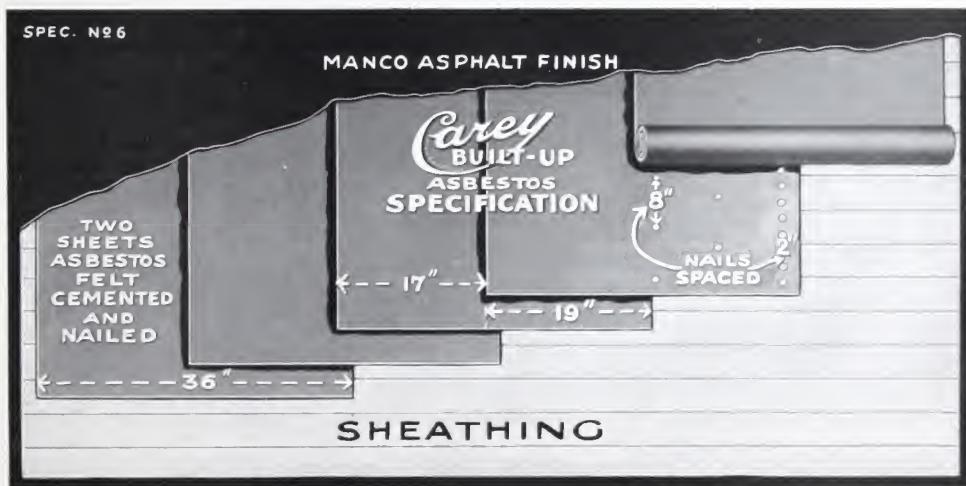
The roof surface shall be except edges of all chimneys, walls, house windows, etc.

General Contractor to install over roof wood roofing strips in wall for flashing. Commoned; all roofs with No. 14 or 16 gauge impregnated iron, or 8-ply asphaltic cement roof for lead. Counterflashing to be firmly attached to the wall with suitable glues, secured with flathead screws.

If counterflashing is furnished by the roofing contractor, both material and labor of installation shall be charged to the account of the general contractor, unless otherwise specifically agreed to by proposal.

Application Carey Built-up Asbestos Roof
Specification No. 6.

(OVER WOOD)



This specification provides for the application of two heavy Asbestos sheets averaging 35 lbs. each per square, Built-up, one-half of the sheet being securely nailed to the sheathing boards, the succeeding sheet then covering the nail heads, the surface finished with a uniform coating of Manco Asphalt, resulting in a roof of great durability, fire-resisting qualities and satisfactory service. The materials, Asphalt and Felt, which enter into the construction of this roof, are the best produced.

See Specification 6-A for application to concrete surfaces.

CAREY BUILT-UP ROOFS

Carey Feltex Built-up Roof Specification No. 7 (OVER WOOD)

Work Proposed—This specification contemplates furnishing all materials and labor required to properly apply the roofing and base flashing, and line the gutters. (No metal work of any kind is included.) Sheathing must be dry before applying the roofing.

Materials—The materials used in the construction of this roof shall be as follows:

(a) Carey Feltex (weight 30 lbs. per sq.)	30 lbs. per sq.
(b) Carey Manco Asphalt,	25 lbs. per sq.
(c) Carey Feltex (weight 15 lbs. per sq.)	15 lbs. per sq.
(d) Carey Manco Asphalt,	25 lbs. per sq.
(e) Carey Feltex (weight 15 lbs. per sq.)	15 lbs. per sq.
(f) Carey Manco Asphalt,	25 lbs. per sq.
(g) Nails $\frac{3}{8}$ or 1 inch, large head,	1 lb. per sq.

ABBREVIATED SPECIFICATION

Roofing—To be Carey Feltex Built-up Roof, Specification No. 7, applied in accordance with manufacturer's complete Specifications for wood sheathing surface.

Weight per square, when applied, to be approximately 136 lbs.

Application—The roof surface shall be covered with sheets of Carey Feltex, 36 inches wide, weighing about 30 lbs. per square. Lap the sheets not less than two inches, then nailing the sheets at the join with large head $\frac{3}{8}$ or one inch nails on six inch centers, with one additional row of large head nails, spaced 11 inches apart lengthwise through the center of sheet.

After the 30 lb. Feltex Sheets have been completed in accordance with the above instructions, proceed to cover the same with two layers of Carey Feltex, weight about 15 lbs. per square each, cementing solid between sheets and joining same to the 30 lb. sheet, so that at no place shall felt touch felt, each sheet to overlap the previous sheet so that 17 inches are left exposed, making a continuous 2-ply built-up over the 30 lb. base Feltex sheet—no nails to be used through the top sheets.

Base sheets shall be laid crosswise of the sheathing boards. The top sheets may be laid crosswise or with the bottom sheets as best suits the type of roof construction.

Valleys and Gutters—Line all valleys and gutters in the same manner as described under "Application."

In certain types of construction it is desirable that all gutters and valleys should be reinforced with an extra sheet of felt, weighing not less than 15 lbs. per square, well mopped in with Manco Asphalt. If this extra reinforcement is required it is to be charged for as an extra on a time and material basis.

Note—All concrete or brick walls to be flashed should be primed to full height of flashing.

Flashing—The general Contractor or Owner to provide suitable nailing strips in the walls at time of construction—usual size about 2×4 inches, also provide cant strips for bridging angle of wall and roof deck.

Note—Height of flashing, width of cant strips and flashing materials may be regulated to suit height of wall and other conditions prevailing.

Counterflashing—See "Notice to Owner or Contractor."

Roof Finish—The entire surface of the roof applied shall be mopped with Manco Asphalt, applied hot and spread to a uniform finish.

NOTICE TO OWNER OR CONTRACTOR

Roof surface is to be prepared and made ready for us for the application of roofing with dry seasoned sheathing boards of uniform thickness, closely laid. All sheathing boards must be surface nailed with at least two nails to each purlin or rafter, in addition to blind nailing.

General Contractor is to remove or hammer down all projecting nail heads, cover all knot holes and fill in all open places between sheathing boards before the roofing contractor commences the application of the roofing. Sheathing must be swept clean before the roofing is applied.

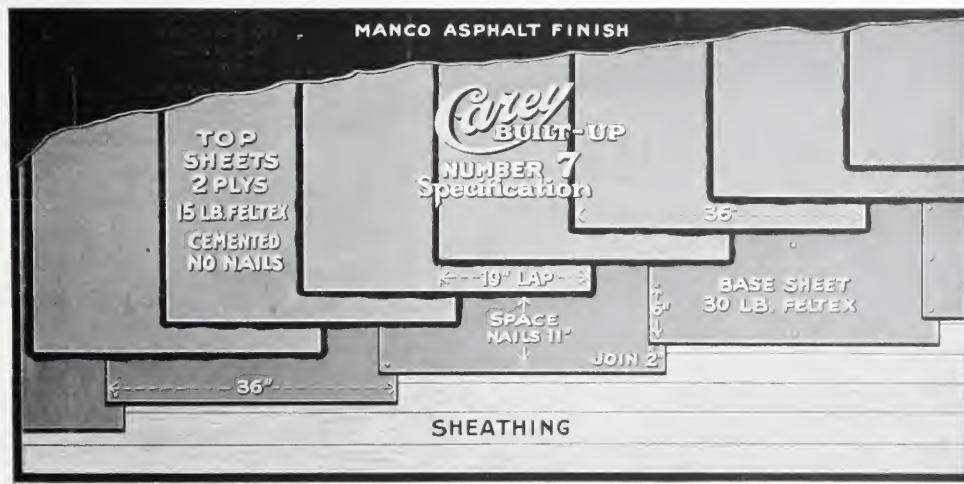
Ends of all sheathing boards must terminate on solid rafter or purlin and be securely nailed thereto.

General Contractor to install cant strips and wood nailing strips in wall for flashing. Counterflash all walls with No. 24 or No. 26 gauge galvanized iron, or if preferred, copper may be used. Counterflashing to be firmly attached in the wall with suitable plugs, pointed with Portland cement.

If counterflashing is furnished by the roofing contractor, both material and labor of installation shall be charged to the acceptor of the proposal as an extra, unless otherwise specifically stated in proposal.

Application Carey Feltex Built-up Roof Specification No. 7

(OVER WOOD SHEATHING)



Carey Built-up Roof Specification No. 7, as shown by its substantial construction, is built for service. This roof contains the required amount of materials to afford the greatest degree of resistance possible to natural abuses.

The roof is constructed entirely of Carey Manco Asphalt and Carey Feltex (Asphalt Saturated Felt), built up layer upon layer directly to the roof boards.

This style of roof construction is suitable for all kinds of factory buildings, and buildings of every description, with the exception of those with very steep roof surfaces.

The Manco Asphalt is prepared with a high melting point, and is therefore not affected by any temperature of the sun's heat.

The materials used in the construction of this roof, together with its practical method of application, as outlined in the specifications, insures the highest satisfactory results wherever it may be used.

CAREY BUILT-UP ROOFS

Carey Feltex Built-up Roof Specification No. 14

(OVER WOOD SHEATHING)

Work Proposed—This specification contemplates furnishing all materials and labor required to properly apply the roofing and base flashing and line the gutters.

No metal work of any kind is included. Sheathing must be dry before applying roofing.

Materials—Materials used in the construction of this roof shall be as follows:

(a) Carey Feltex (weight 30 lbs.)	30 lbs. per square
(b) Carey Manco Asphalt,	25 lbs. per square
(c) Carey Feltex (weight 15 lbs.)	15 lbs. per square
(d) Carey Manco Asphalt,	25 lbs. per square
(e) Carey Feltex (weight 15 lbs.)	15 lbs. per square
(f) Carey Manco Asphalt,	25 lbs. per square
(g) Carey Feltex (weight 15 lbs.)	15 lbs. per square
(h) Carey Manco Asphalt,	25 lbs. per square
(i) Nails $\frac{7}{8}$ " or 1" large head (weight 1 lb.)	1 lb. per square

Weight per square when applied to be approximately 176 lbs.

Application.—The roof surface shall be covered with sheets of Carey Feltex 36" wide weighing about 30 lbs. per square. Lap the sheets not less than 2 inches, then nailing the sheets at the join with large head $\frac{7}{8}$ " or 1" nails on six inch centers with one additional row of large head nails spaced 11 inches apart lengthwise through center of sheet.

After the 30 lb. Feltex sheets have been completed in accordance with the above instructions, proceed to cover the same with three layers of Feltex, weight about 15 lbs. per square each, cementing solid between sheets and bonding same to the 30 lb. sheet, so at no place shall felt touch felt, each sheet to overlap the previous sheet, so that 11 inches are left exposed, making a continuous 3-ply Built-up over the 30 lb. base Feltex sheet. No nails to be used through the top sheets.

Base sheets shall be laid crosswise of the sheathing boards. The top sheets may be laid crosswise or with the bottom sheets as best suits the type of roof construction.

Valleys and Gutters.—Line all valleys and gutters in the same manner as described under "Application."

In certain types of construction it is desirable that all gutters and valleys should be reinforced with an extra sheet of felt, weighing not less than 15 lbs. per square, well mopped in with Manco Asphalt. (If this extra reinforcement is required it is to be charged for as an extra on a time and material basis.)

Note.—All concrete or brick walls to be flashed should be primed to full height of flashing.

Flashing.—The General Contractor or Owner to provide suitable nailing strips in the walls at time of construction, usual size about 2 x 4 inches, also provide cant strips for bridging angle of wall and roof deck.

Note.—Height of flashing, width of cant strips and flashing materials may be regulated to suit height of wall and other conditions prevailing.

Counterflashing.—See "Notice to Owner or Contractor."

Roof Finish.—The entire surface of the roof applied shall be mopped with Manco Asphalt, applied hot and spread to a uniform finish.

NOTICE TO OWNER OR CONTRACTOR

Roof surface is to be prepared and made ready for us for the application of roofing with dry seasoned sheathing boards of uniform thickness, closely laid. All sheathing boards must be surface nailed with at least two nails to each purlin or rafter in addition to blind nailing. General Contractor is to remove or hammer down all projecting nail heads, cover all knot holes and fill in all open places between sheathing boards before the roofing contractor commences the application of the roofing. Sheathing must be swept clean before the roofing is applied.

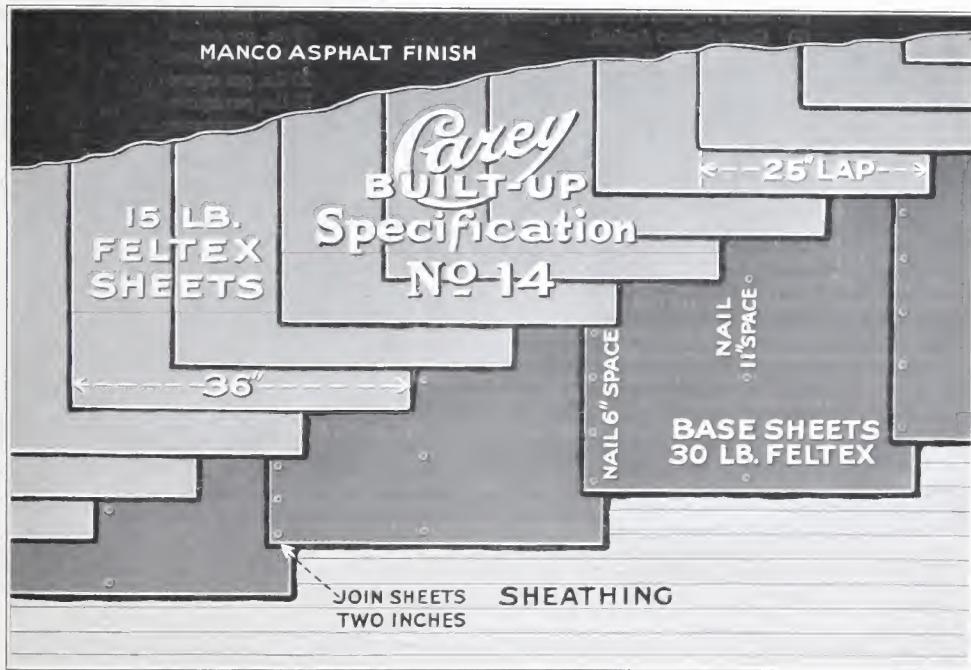
Ends of all sheathing boards must terminate on solid rafter or purlin and be securely nailed thereto. General Contractor to install cant strips and wood nailing strips in wall for flashing. Counterflash all walls with No. 24 or No. 26 gauge galvanized iron, or if preferred, copper may be used. Counterflashing to be firmly attached in the wall with suitable plugs, pointed with Portland Cement. If counterflashing is furnished by the roofing contractor, both material and labor of installation shall be charged to the acceptor of the proposal as an extra, unless otherwise specifically stated in proposal.

ABBREVIATED SPECIFICATION

Roofing—To be Carey Feltex Built-up Roof Specification No. 14, applied in accordance with manufacturer's complete specifications for wood sheathing surface.

Application Carey Feltex Built-up Roof Specification No. 14

(OVER WOOD OR GYPSUM)



Especially prepared for use over the long Gypsum Block Roof Base, also for wood surfaces, where additional weight and strength is advisable in the roof covering.

Carey Roof Specification No. 14 has proved a most efficient and suitable roof covering for flat surfaces, as well as saw-tooth type, where the roof construction is either of wood or gypsum.

Sufficient elasticity to allow for all ordinary contraction or expansion, is imparted to the roof by the flexible quality of the asphalt used to bind the sheets together.

CAREY BUILT-UP ROOFS

Carey Roof Specification No. 8

(FELTEX BUILT-UP ROOF OVER CONCRETE AND GYPSUM)

Work Proposed—This specification contemplates furnishing all material and labor required to apply the roofing and base flashing, and line the gutters. (No metal work of any kind is included.)

Materials—The materials used in the construction of this roof shall be as follows:

(a) Carey Asphalt Primer (1 gallon).	9 lbs. per square
(b) Carey Manco Asphalt,	50 lbs. per square
(c) Carey Feltex Felt,	15 lbs. per square
(d) Carey Manco Asphalt,	25 lbs. per square
(e) Carey Feltex Felt,	15 lbs. per square
(f) Carey Manco Asphalt,	25 lbs. per square
(g) Carey Feltex Felt,	15 lbs. per square
(h) Carey Manco Asphalt,	25 lbs. per square

Weight per square, when applied, to be approximately 179 lbs.

Application—The concrete shall be coated with Carey Asphalt Primer, applied cold, and thoroughly brushed in. The surface shall be mopped with Carey Manco Asphalt, into which, while hot, embed three layers of Carey Feltex (Asphalt Saturated Felt), cementing solid between the sheets so that at no place shall felt touch felt; each sheet to overlap the previous sheet so that 11 inches are left exposed, making eight courses of asphalt and felt.

Valleys and Gutters—Apply three layers of Carey Feltex Felt lengthwise with the valley or gutter. Each sheet to overlap the previous sheet so that one-third of its length is left exposed. (Use sheets cut to uniform length.)

All gutter or valley sheets shall extend on the roof surface sufficiently to be properly lapped with the main roofing sheets, and are to be applied as specified under "Application."

Note—All concrete or brick walls to be flashed should be primed to full height of flashing with Carey Asphalt Primer.

Flashing—Cement strip of Feltex six inches wide in angle of wall, three inches to wall and three inches to flat deck. The Feltex sheets from main roof to be cut so they will extend up on all fire walls, skylights and other vertical surfaces to a height of six inches; this extension to be cemented to vertical surface. A cap sheet of Feltex cut twelve inches wide to be cemented in six inches to wall and six inches to flat deck.

General Contractor to leave openings in the walls for inserting counterflash.

Counterflashing—See under "Notice to Owner or Contractor."

Roof Finish—The entire surface of the roofing applied shall be mopped with Carey Manco Asphalt, applied hot, evenly spread to a uniform finish.

NOTICE TO OWNER OR CONTRACTOR

All concrete surfaces shall be prepared for us for the application of roofing, with a comparatively smooth, hard finish, free from holes and loose particles of sand and cement, and the expense of rectifying any extensive irregularities, such as depressions in the plane of the roof surface, which must be filled, shall be chargeable to the acceptor of this proposal.

All sharp angles to be rounded out so as to avoid rough or sharp edges. On steep surfaces provision should be made for anchoring the roofing sheets, the anchor strip to consist of a wood strip embedded into the concrete surface at the ridge.

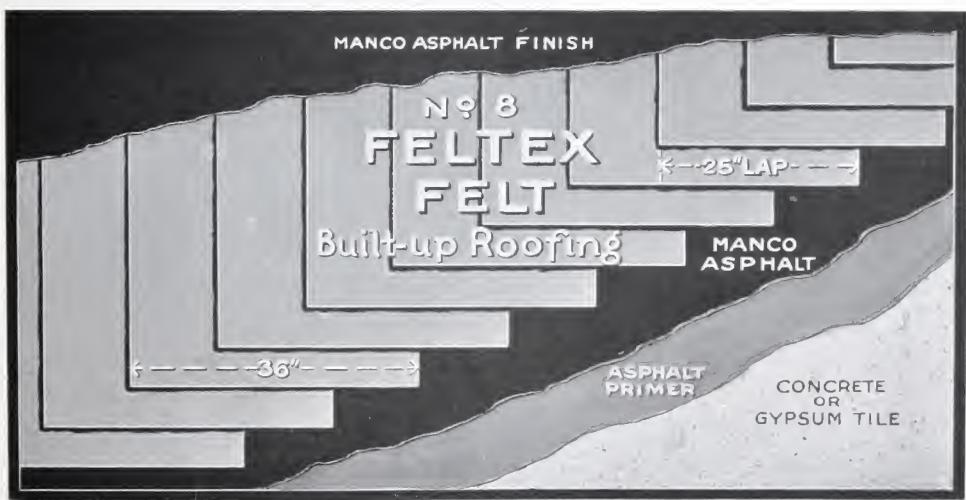
All down-sput openings must be lower than the roof surface, and the gutters and surface properly graded by the cement contractor, so that water will not stand at any point.

Counterflash all walls with No. 26 gauge galvanized iron, or if preferred, copper may be used. Counterflashing to be firmly attached in wall with suitable plugs, pointed with Portland cement. Also see detail for Carey Fiberock counterflash. If furnished by the roofing contractor, both materials and labor of installation shall be charged to the acceptor of this proposal as an extra, unless otherwise specifically stated in proposal.

General Contractor to provide an opening in walls for inserting of counterflashing, approximately $1\frac{1}{2}$ inches deep and $\frac{1}{2}$ inch wide. The concrete surface must be thoroughly dry and swept clean before the roofing is applied.

Application of Carey Feltex Built-up Roof Specification No. 8

(OVER CONCRETE AND GYPSUM)



This roof is constructed entirely of Manco Asphalt and Feltex (Asphalt Saturated Felt), built-up layer upon layer directly to the roof base.

The materials used in this specification are the best obtainable.

Feltex Felts take 150% saturation of Asphalt.

Manco Asphalt, soluble in Carbon bi-sulphide, . . . 99.92%.

Manco Asphalt, flash test, 490 degs. F.

Manco Asphalt, melting point, 220 degs. F.

Method of Flashing Built-up Roofs

(ASBESTOS AND ASPHALT BUILT-UP ROOF OVER CONCRETE)

Base and Counterflashing

For Carey Built-up Specifications Nos. 4 and 8

All walls to be flashed must be given a coat of asphalt primer.

(a) Angle strip of Fibrock Felt 6 inches wide, cemented in angle of wall, 3 inches to roof surface and 3 inches in wall.

(c) Fibrock Felt built-up in 3 plies. All sheets bonded and extended in wall 6 inches high to wood nailing strip.

(f) Upper edge of base flashing nailed to wood strip in wall through three plies.

(g) Cap sheet of Fibrock Felt 12 inches wide, extending 6 inches on roof deck and 6 inches on wall, securely bonded with Manco Asphalt.

(h) Fibrock counterflashing 5 inches wide, cemented securely over upper edge of base flashing, with Fibrock cement, covered on.

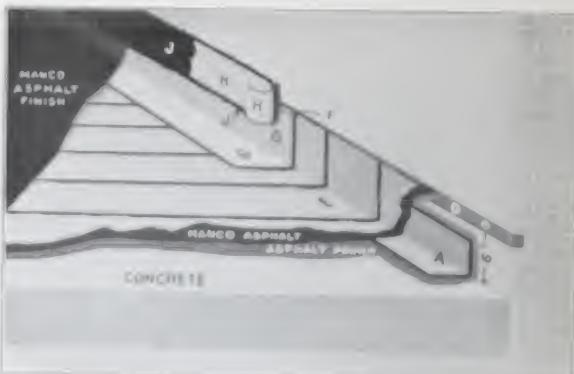
(i) Fibrock cement rounded over and under Fibrock counterflash.

(j) Wood nailing strip in wall 6 inches above roof surface.

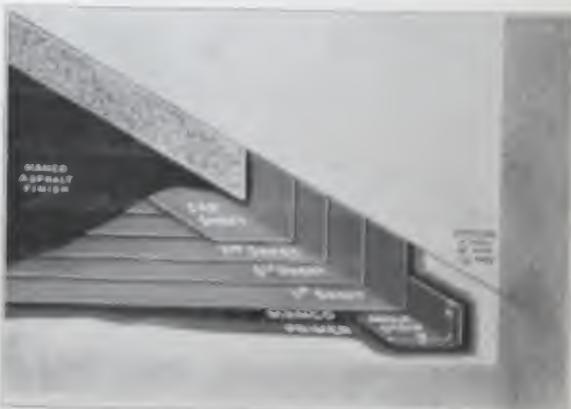
The wood nailing strip is recommended for the wall as additional security, but if not provided, nail along the upper edge at the outer points, in case of brick wall, using nails 1½ inches long.

Lower Illustration—Same method of flashing as described above, except galvanized iron of about 26 gauge, or copper, is used for counterflashing.

The main deck of roof surface, when Specifications Nos. 4 or 8 are used, will be covered with three sheets of Fibres or Fibrock, weighing 15 lbs. per square yard. The base flashing consists of 5 separate sheets of 18 in. Fibres or Fibrock, and 6 separate courses of asphalt, making 12 alternating courses of asphalt and felt.



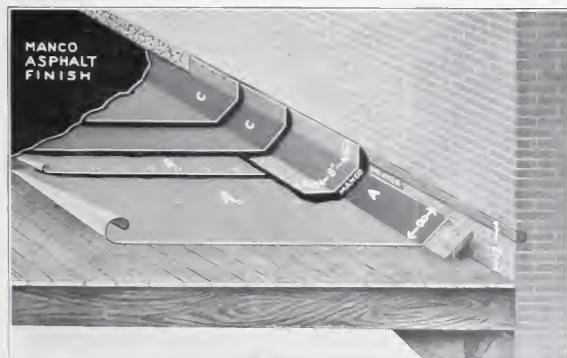
Carey Fibre Counterflash. No Metal Used.



Flashing Specifications Nos. 4 and 8
Contracted Out in Galvanized Iron Counterflash.

Method of Flashing Built-up Roofs

Base and Counterflashing



Specification No. 3. Asbestos Built-up Roof (over Wood).

A—Sheets of 2-Ply Fiberock Roofing, laid to top edge of cant strip.

C—Top sheets of Fiberock (Asphalt Impregnated Asbestos Felt).

Cap Sheet of Asbestos Fiberock (1-Ply) 18 inches wide is shown cemented in over cant strip and up to nailing strip in the wall.

D—Counterflashing, metal.

A—Sheets of Feltex (Asphalt Saturated Felt). Weight, 30 lbs. per square.

B—Sheets of Feltex, weighing 15 lbs. per square, bonded to base sheets with asphalt.

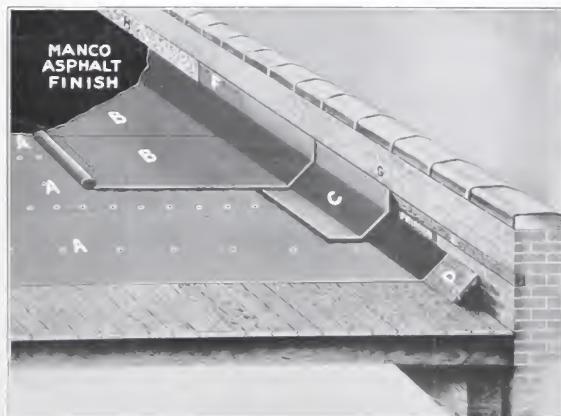
C—Cap Sheet of Feltex, cemented in over cant strip.

D—Cant Strip of wood.

E—Nailing Strip in wall (wood).

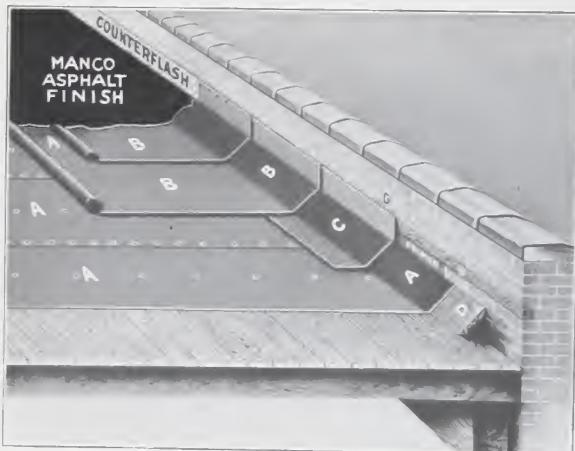
F—Top edge of Fiberock Sheets, nailed to wall strip.

H—Counterflashing, metal.



Specification No. 5. Feltx Built-up Roof (over Wood).

Method of Flashing Built-up Roofs Base and Counterflashing



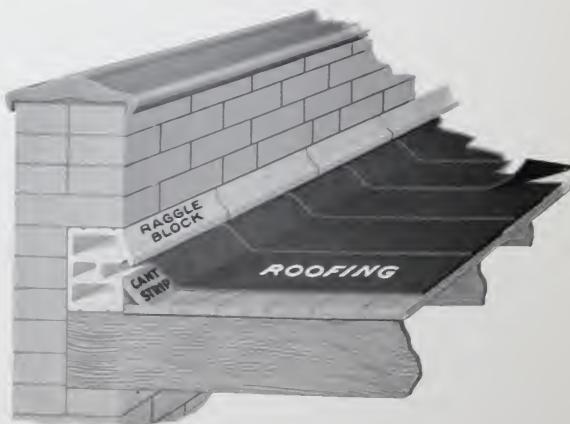
Specification No. 7. Feltex Built-up Roof (over Wood).

Flashing with Raggie Block

As an effective means of installing reliable flashing work, the raggie block is being used to a considerable extent and is recommended by architects and roofers generally.

These blocks are usually made of vitrified clay and about the width of an ordinary building brick. The primary object of using the raggie is to prevent leakage where the roofing joins the wall, and common practice has shown that it has proved a very effective means of eliminating leaks along walls.

The roofing sheets are brought up over the cant strip and into the groove of the raggie block, being thoroughly mopped and cemented, after which the opening in the raggie block is thoroughly calked with oakum, making an absolutely watertight connection.



CAREY BUILT-UP ROOFS

Architects, Engineers and Building Owners Rely on Carey Built-up Roofs

They are pliable and can be adjusted around skylights, chimneys, ventilators, manholes, flashings, and all roof irregularities.

Because they are pliable, changes in temperature, the freezing of slush on the roof and cold weather will not cause them to crack or break open at important joints.

Carey Manco Asphalt has such a high melting point that it does not soften and run like tar in hot weather.

It does not require a coating of slag to hold it down or protect it, and because it is not covered with slag it can easily and cheaply be coated and renewed after it has given a period of service which would necessitate any other roofs being replaced.

Carey Roofs are easy to apply, light enough in weight to avoid the necessity of heavy rafter construction.

About 85% of the weight of this roofing is made up of mineral matter—genuine asphalt in some form or other—by all odds the most wonderful waterproofing material ever discovered.

Carey Built-up Roofs withstand the action of heat, cold, steam, smoke, gas, acid fumes, cinders and atmospheric changes for a maximum period of time.

It is the most scientific and practical permanent roofing that can be recommended to meet modern industrial conditions.

You will find the Carey Built-up Roof Specifications adapted to any class of building, flat or steep surfaced, over wood, cement, tile and gypsum.

Carey Built-up Roofs are chosen for the best and most modern commercial and public buildings of every type; used on the finest new High Schools, where safety and permanence are a prime necessity. The finest Banks, Theatres, largest Department Stores, Apartments, etc.

The big industrial users who have applied a Carey Built-up Roof to one plant, apply it to new units as fast as they are erected, because every experience they have with it demonstrates its remarkable endurance.

For samples, information or estimates, see the nearest Carey Distributor, or write direct to

THE PHILIP CAREY COMPANY
Lockland, Cincinnati, Ohio.

APPLYING CAREY BUILT-UP ROOFS To Concrete, Gypsum, Tile, Etc.

All roof surfaces of concrete construction must be properly prepared by the Concrete Contractor with a comparatively smooth hard finish.

Gypsum block must be laid so that the surface will be comparatively level, the spaces where the blocks join to be filled in with suitable cement so that the surface presented will be comparatively smooth.

All rough or sharp edges must be rounded off to prevent damage to the roofing sheets.

Provision should be made by the Concrete Contractor for expansion and contraction in concrete roofs, otherwise both the roof structure and the roof covering will be subjected to more or less damage.



Unrolling the sheets of Full Coat Hot Mopped Asphalt roof covering over concrete roof base.
The results will be both to the roof structure and the roofing material applied thereto when proper provision is not made for expansion and contraction.

All surfaces of concrete or gypsum must be given a coat of Asphalt Primer to insure perfect bonding of the asphalt.

The Concrete Contractor should give special attention to providing sufficient slope or pitch throughout all parts of the roof surface, and all down spouts should be large enough so that the water will be quickly carried away during the average maximum rainfall.

The concrete roof base should have sufficient time to thoroughly dry before attempting to apply any kind of roofing material.

Freezing water in concrete increases its bulk about 10% and creates an expansive force estimated at more than 10,000 lbs. per square inch. The coefficient of expansion for concrete is about .0000055 per degree F., or about $\frac{1}{8}^{\text{th}}$ in 100 feet for each 15 deg. F. A piece of concrete 100 feet long under 100 deg. F. change in the temperature will contract or expand $\frac{1}{8}$ of an inch. Concrete expands when it absorbs moisture, and contracts when it is dry. Contraction of concrete through the loss of moisture causes stress in the concrete when it is restrained by an external force. It can be readily estimated what applied thereto when proper provision is not

APPLYING CAREY BUILT-UP ROOFS To Concrete, Gypsum, Tile, Etc.

Flashing is one of the most important parts of the roofing work. Improper flashing can cause any amount of annoyance and expense from leakage. Co-operation between the architect and roof contractor will result in permanently watertight and satisfactory flashing work. Architects, as a rule, do not object to specifying suitable rattle blocks, nailing strips or cant strips for the walls of the building, to enable the roofing contractor to install the flashing properly, and thus assure to the owner that it will at all times give the highest satisfaction.



Showing application of Carey Built-up Roof to Gypsum Block

The type of flashing to be used should be adapted to fit the wall construction. The roofing contractor is in a position, through his experience and knowledge of the work, to furnish valuable information and advice as to the proper flashing for use in each particular case. For most buildings the rattle block with the cant strip is recommended as the most suitable type of flashing.

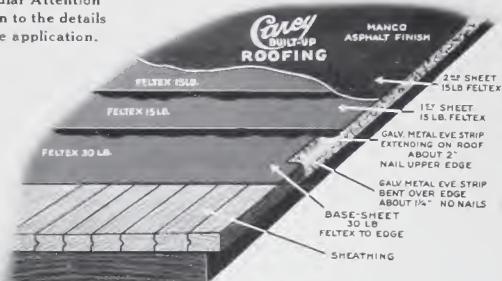
In the application of Carey Built-up Roofs there are two kinds of felt used—namely, the Asphalt Saturated Felt, known as Feltex, and the Asphalt Impregnated Asbestos Felt, known as Fiberock.

Roofs are subjected to various conditions of exposure and the Carey Built-up Specifications are prepared with a view of meeting the conditions in the case of each particular roof, so far as it may be practicable.

CAREY BUILT-UP ROOFS

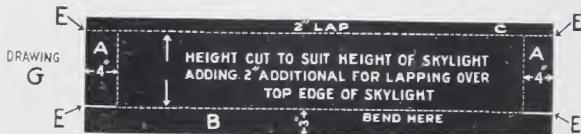
The Best Materials and Workmanship go into Carey Built-up Roofs

Particular Attention
is given to the details
in the application.



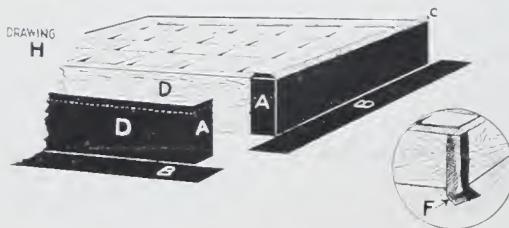
Our Method of Finishing along edges of roof with galvanized strip.

FLASHING AROUND SKYLIGHTS, SCUTTLES, ETC.



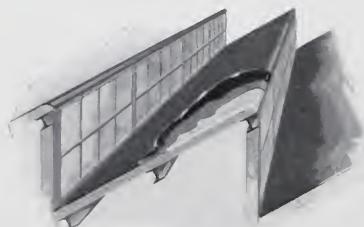
Explanation

First prepare the skylight by fitting and cementing in at the base of each four corners one or more pieces of roofing felt. See F.



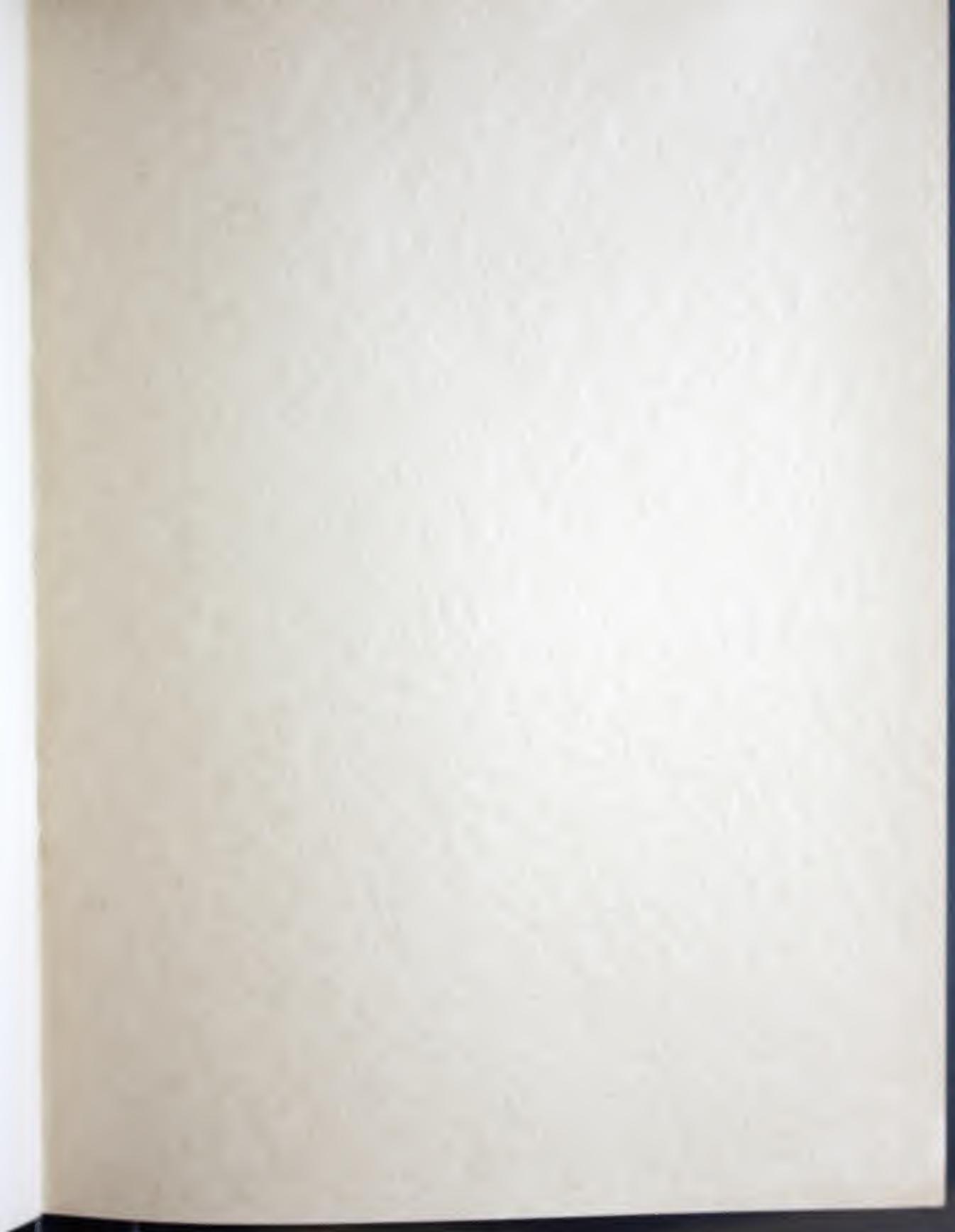
Featheredge the roofing sheets from the main deck to the sides of the skylight, cementing thereto, the sheets to be carefully laid so they will fit perfectly around the base of the skylight.

After completion of main deck, capsheets of roofing felt to be prepared as shown in drawing G, so that the length, width and height will correspond with the skylight or scuttle. These strips are then fitted and cemented around skylight, as illustrated in drawing H.



Cementing Roofing Sheets to Ridge

Cementing roofing sheets over upper edge or ridge of Saw Tooth (concrete base) where the roof construction is of wood, a galvanized edging strip may be used, as shown in top cut on this page.



THE PHILIP CAREY CO.
22ND & WESTMORLAND STS
PHILADELPHIA, PA